

# ALTERNATING PHASE-SHIFT MASK RULE COMPLIANT IC DESIGN

## Abstract

A system, method and program product that implement a design object that automatically provides compliance to alternating phase shifted mask (altPSM) rules are disclosed. The invention implements a design object that is used during layout to indicate a phase-shiftable design feature in the layout. Each design object includes a base shape indicative of the feature to be ultimately created and two different type phase shape identifiers that identify the requisite mask area and color of phase-shift required for that base shape. Each phase shape identifier is assigned to a portion of the base shape. During layout, overlapping placement of design objects is not allowed if the placement requires overlapping phase identifiers of the same type. Alternatively, placement is allowed where the phase identifiers of different type are separated by a minimum distance from each other defined by a buffer of the design object.